

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
3 June 2004 (03.06.2004)

PCT

(10) International Publication Number
WO 2004/047346 A1

- (51) International Patent Classification⁷: **H04J 3/16**, 3/17, H04B 7/212
- (21) International Application Number:
PCT/US2003/017377
- (22) International Filing Date: 2 June 2003 (02.06.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/427,495 19 November 2002 (19.11.2002) US
- (71) Applicant (for all designated States except US): **BAE SYSTEMS INFORMATION AND ELECTRONIC SYSTEMS INTEGRATION INC [US/US]**; 65 Spit Brook Road, Nashua, NH 03061 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): **BROMMER, Karl, D.** [US/US]; 15 Kensington Road, Hampton Falls, NH 03844 (US).
- (74) Agents: **MALONEY, Neil, F. et al.**; PO Box 3445, Nashua, NH 03061-3445 (US).

- (81) Designated States (*national*): AE, AG, AL, AM, AT (utility model), AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (utility model), DE, DK (utility model), DK, DM, DZ, EC, EE (utility model), EE, ES, FI (utility model), FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK (utility model), SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

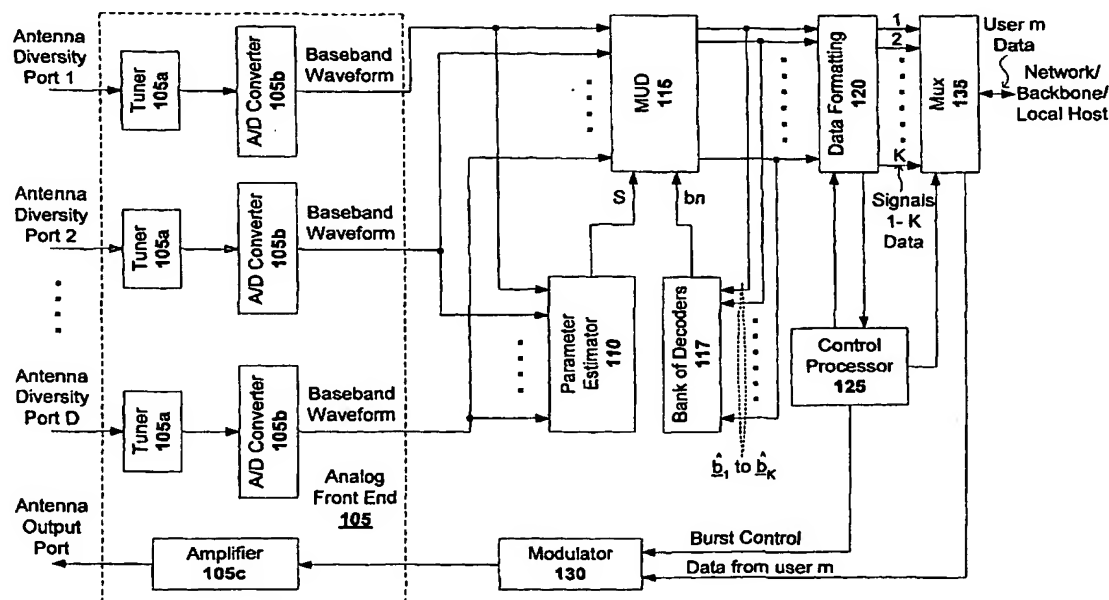
— of inventorship (Rule 4.17(iv)) for US only

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **BANDWIDTH EFFICIENT WIRELESS NETWORK MODEM**



(57) Abstract: A modem that provides efficient use of wireless network bandwidth in the presence of multi-user interference and noise comprising a multi-user detection module (115), a data formatting module (120), a control processor (125) and a demultiplexer (135).